



**Rack Conveyor Dishmachine  
Maintenance Instructions**

# **Drive Motor & Gear Reducer Replacement**

The drive motor and the gear reducer of your Jackson rack conveyor are responsible for moving racks of ware through the dishmachine. If needed to be replaced, these instructions will show you how to get your machine up and running in the shortest possible time.

Jackson offers all of the repair parts necessary for performing this task.

The instructions provided here are for maintenance personnel only. Unauthorized persons should not attempt any of the steps contained in these instructions.

**Warning: many of the instructions and steps within this document require the use of tools. Only authorized personnel should ever perform any maintenance procedure on the dishmachine!**

## PREPARATION

1. Power must be turned off to the unit at the service breaker. Tag or lock out the service breaker to prevent accidental or unauthorized energizing of the machine.

## TOOLS REQUIRED

The following tools will be needed to perform this maintenance evolution:

1. 7/16" socket and ratchet with extension
2. 9/16" socket and ratchet with extension
3. 7/16" combination wrench
4. 9/16" combination wrench
5. 3/4" combination wrench
6. 1/8" Allen wrench
7. 1/4" nutdriver
8. Large flathead screwdriver
9. Medium phillipshead screwdriver
10. Medium hammer
11. Rubber mallet

## TIME REQUIRED

It is estimated that it will take (1) person one and a quarter hours to replace the drive motor, one and a quarter hours to just replace the gear reducer or two hours to do both at one time, not including all of the items indicated in the section entitled "PREPARATION".

## IMPORTANT NOTES

1. Read these instructions thoroughly before attempting this maintenance procedure. Become familiar with the parts and what actions need to be taken. This will save time in the long run!

2. The procedures demonstrated in this manual are shown being performed on an AJ-44 rack conveyor dishmachine. The actual maintenance steps, however, apply to any drive motor or gear reducer found on a Jackson rack conveyor dishmachine.

## STEPS

1. Remove the (2) screws that secure the top drive assembly cover in place.



Removing the screws from the top cover.

2. Remove the top cover to expose the drive assembly.



Removing the top cover.

3. Set the top cover to the side and out of the way so that it does not become a trip hazard. From here, the next step will be to remove the bottom cover. This will require using the 7/16" socket with ratchet and most likely the 7/16" combination wrench. Do not lose the hardware for the covers as your repair kits do not come with the hardware necessary to replace these. If you do require hardware that is not present in your kits, do not hesitate to contact Jackson Technical Service for help.



Removing the nuts securing the bottom cover.

4. Remove the bottom and set to the side so that it does not become a trip hazard.



Removing the bottom cover.

5. With the cover removed you may now remove the bolts used to connect the drive motor to the gear reducer. **Note:** you need to support the motor as you remove the bolts; failure to do so could result in the motor falling to the ground and becoming damaged.



Removing the bolts holding the drive motor to the gear reducer.

6. Once the bolts are removed, the motor should slide out of the gear reducer. Remember to support and lay it gently on the floor or some other surface in order to continue working on it. Be sure that you get the key, checking the keyway on the motor shaft and in the gear reducer.



Removing the drive motor.

7. If the purpose of this maintenance action is to replace the drive motor, continue to step 8. If you wish to replace the gear reducer, continue to step 21.

8. With the motor laying on a level surface, you need to remove the conduit from it. First, use the 1/4" nutdriver to remove the wiring access cover on the back of the motor.

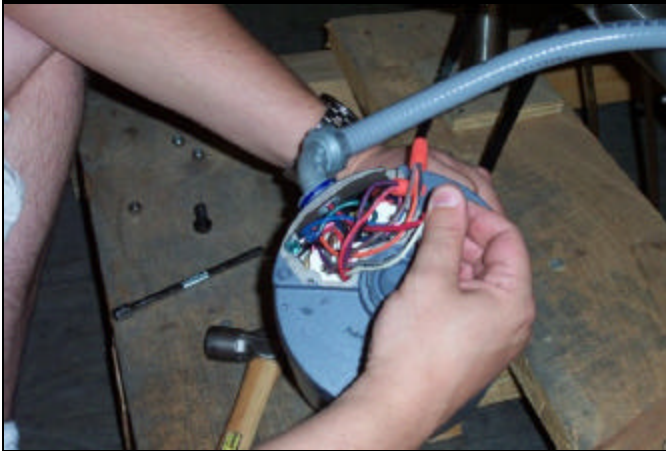


Removing the wiring access cover.

9. Once the cover is removed and the wiring is exposed, you may want jot down how your motor is wired. You can also refer to the schematic located on the motor itself because how the motor is wired when you remove it is how you will wire it when you replace it. If you have any questions regarding the wiring of your motor, do not hesitate to contact Jackson Technical Service.

10. pull the bundled wires out and remove the wire nuts. Set the wire nuts to the side as you will need them when you wire up the new motor.





Removing the wire nuts.

The WRONG way to mount the drive motor.

11. Once the wire nuts are removed, separate the wires.
12. With the flathead screwdriver and the hammer, loosen the conduit nut. Once loosened, pull the conduit away from the motor. The motor may now be disposed of.
13. Remove the access cover off of the new motor.
14. Attach the conduit and pull the wires through the hole provided. Tighten the conduit nut.
15. Using the wire nuts, wire the motor back the same way the old one had been. Refer to the schematic on the motor itself or contact Jackson Technical Service if you any questions.
16. Once the wiring is done, carefully push wires back into the motor and put the access cover back on. Tighten down the screws for securing it.

The Correct way to mount the drive motor.

17. The drive motor now needs to be reattached to the gear reducer. There are two methods for doing this. The first is to try and reinsert the drive motor shaft into the gear reducer with it (gear reducer) still attached to the unit. This is difficult but possible. Ensure that the key is in the keyway when you mate the parts. The second method and perhaps the easiest is to remove the gear reducer, mate the two parts and bolt them together and then put them on the unit at one time. This method takes a little more time. If you wish to remove the gear reducer and assemble the two components continue on to step 27.

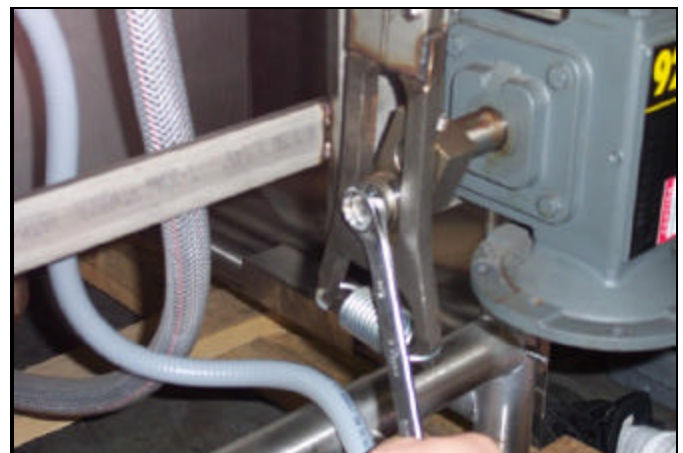
18. Once the motor and gear reducer are mated, secure them with the locknuts and bolts. Ensure the bolts are tight.

**Note:** Because of the way the covers for the drive assembly are designed, it is imperative that you position the motor on the gear reducer so that the conduit fitting is facing towards the front of the dishmachine. If it is facing away from the machine, the covers may not go back on.

19. Reattach the bottom and top drive assembly covers.

20. Proceed to the sections entitled "AFTER MAINTENANCE ACTIONS".

21. (Continuing from step 7) To remove the gear reducer, first take the 3/4" combination wrench and remove the drive hub bolt.



Removing the drive hub bolt.

22. Once the drive hub bolt & bearing are removed, loosen the set screw on the drive hub. There is no need to remove it.



Loosening the set screw with the 1/8 allen wrench.

23. Remove the gear drive by using the 9/16" socket and ratchet, as well as the combination wrench as required, to remove the nuts holding it to the mounting plate.



Removing the nuts holding the gear reducer on.

24. Gently remove the gear reducer, careful not to drop it.



Removing the gear reducer.

25. Set the gear reducer on a flat surface. The drive hub needs to be removed. You have already loosened the set screw, but it may take some more effort to remove it. You may pry it off, or give it some taps with a mallet to coax it off of the shaft. The liberal use of spray lubricants will also help.



Removing the drive hub.

26. Once the drive hub is removed, place it on the shaft of the new gear reducer. Ensure the key is in the keyway. Once it is on and flush with the end of the shaft, tighten down on the set screw with the 1/8" allen wrench.

27. As you have both the drive motor and the gear reducer off of the machine, it is much simpler to assemble them together prior to mounting them. Ensuring that the key for the drive shaft of the drive motor is in the keyway.



Mounting the motor to the gear reducer.

28. After the motor is mated against the gear reducer, turn the motor so that the conduit fitting will face towards the front of the dishmachine once both components are mounted to the frame. This is to all the drive assembly covers to go back on. If you do not do this, then there is a possibility the covers will not fit back on the unit. Refer to step 18 and the note following for more details.

29. Stand the assembly up and secure them using the lockwashers and bolts. Use the 9/16" combination wrench to tighten them down.





Tightening the bolts to secure the drive motor to the gear reducer.

30. Once the motor is securely fastened to the gear reducer, carefully lift the assembly up and mount it on the fasteners. Be sure to use proper lifting techniques to prevent injury.

31. Once mounted, secure with the lockwashers and locknuts.

32. Reinstall the drive hub bearing and drive hub bolt, tightening down with the 7/8" combination wrench.

33. Reattach the bottom and top assembly covers.

## AFTER MAINTENANCE ACTIONS

Reconnect the incoming water (if disconnected) and turn on. Then restore power to the unit. Run the unit for at least 10 minutes, running an empty rack through the machine to ensure that it is carried all of the way through. If you hear any grinding sounds while the motor is running, immediately shut off the unit and secure power and water. There is a serious problem that must be addressed. If any problems arise you can contact Jackson Technical Service.

## SPECIAL NOTES

Work performed on Jackson dishmachines by unauthorized or unqualified personnel may void the warranty. Before beginning this or any other maintenance evolution on a unit under warranty, you should contact a certified Jackson technician or Jackson Technical Service. You can find a list of qualified service agencies in the back of you unit's installation manual.

## SPECIAL PARTS

### AJ-44/66/80 Machines:

Gear Reducer: 6105-011-71-88

Drive Motor Replacement Kit:

50 Hz: 6401-003-08-41

60Hz/1 Ph: 6401-003-08-42

60 Hz/3 Ph: 6401-003-08-40

600 V/60 Hz/3 Ph: 6401-003-08-43

### AJ-54/76/90 Machines:

Gear Reducer: 6105-011-87-20

Drive Motor Replacement Kit:

50 Hz: 6401-003-08-41

60 Hz/1 Ph: 6401-003-08-42

60 Hz/3 Ph: 6401-003-08-40

600 V/60 Hz/3 Ph: 6401-003-08-43

### AJ-64/86/100 Machines:

Gear Reducer: 6105-011-87-20

Drive Motor Replacement Kit:

50 Hz: 6401-003-08-41

60 hz/1 Ph: 6401-003-08-42

60 Hz/3 Ph: 6401-003-08-40

600 V/60 Hz/3 Ph: 6401-003-08-43

## CONTACT INFORMATION

Jackson MSC Inc. provides technical support for all of the dishmachines detailed in this manual. We strongly recommend that you refer to this manual before making a call to our technical support staff. Please have this manual with you when you call so that our staff can refer you, if necessary, to the proper page. Technical support is available from 8:00 a.m. to 5:00 p.m. (EST), Monday through Friday. Technical support is not available on holidays. Contact technical support toll free at 1-888-800-5672. Please remember that technical support is available for service personnel only.

Drive Assembly (with Adjust-A-Peak)

